SUPREME COURT OF THE UNITED STATES.

No. 71.—October Term, 1929.

Minerals Separation North American Corporation, Petitioner, *vs.* Magma Copper Company.	On Writ of Certiorari to the United States Circuit Court of Appeals for the First Circuit.

[February 24, 1930.]

Mr. Justice Holmes delivered the opinion of the Court.

This is a suit for the infringement of Letters Patent, No. 962678, Claims 1 and 2, brought by the petitioner in the District Court of Maine, where the petitioner prevailed, (23 F. (2d) 931,) the Court acting partly in deference to the decision of the Circuit Court of Appeals for the Third Circuit in *Miami Copper Co.* v. *Minerals Separation, Ltd.*, 244 Fed. Rep. 752. The decision of the District Court was reversed by the Circuit Court of Appeals for the First Circuit, 30 F. (2d) 67, and because of the conflict with the Third Circuit, a writ of certiorari was granted by this Court.

The claims are (1) for a "process of concentrating ores which consists in mixing the powdered ore with water containing in solution a small quantity of a mineral frothing agent, agitating the mixture to form a froth and separating the froth", and (2) the same as (1) except that it inserts the word 'organic' before 'mineral frothing agent'. The only defence that it is necessary to consider is that the disclosure is anticipated by the earlier patent, No. 835120, which has been before this Court in *Minerals Separation, Ltd.* v. *Hyde*, 242 U. S. 261, and *Minerals Separation, Ltd.* v. *Butte & Superior Mining Co.*, 250 U. S. 336. It is enough to refer to those cases without repeating them. The process described in 835120 "consists in mixing the powdered ore with water, adding a small proportion of an oily liquid having a preferential affinity for metalliferous matter, (amounting to a fraction of one per cent. on the ore), agitating the mixture until the oil coated mineral

matter forms into a froth, and separating the froth from the remainder by flotation." The specification describes the object as being to separate metalliferous matter, &c., from gangue by means of oils, fatty acids, "or other substances which have a preferential affinity for metalliferous matter over gangue". It refers to a previous patent to Cattermole by which a considerable amount of oil is used to form granules, and announces the discovery that if the proportion of oily substance is reduced to, say, a fraction of one per cent. on the ores, granulation ceases to take place, and on vigorous agitation the ore instead of sinking forms a froth on the surface that can be removed. The process is helped by the addition of a little acid, by warming and the fine pulverization of the pulp.

The petitioners, admitting that both patents are for processes, says that they are fundamentally different in their respective principles of action; that in the present patent, 962678, the mineral frothing agent is dissolved in the water and produces the metal bearing bubbles, no one knows exactly how, by 'modifying the water'; whereas in the earlier, 835120, oil is used which does not dissolve in the water but coats the particles of metal with a thin coating of oil, which it could not do if it were soluble, and thus shows its preferential affinity when shaken up with the metal pulp.

The question is not what is the precise scope of the claims in 835120, but what is disclosed in the specification and made known to the world. *Alexander Milburn Co.* v. *Davis-Bournonville Co.*, 270 U. S. 390. Therefore we are relieved of the inquiry whether the words 'oily liquid' in Claim (1) can be read as a shorthand expression for the previously mentioned oils 'and other substances which have a preferential affinity for metalliferous matter over gangue', as 'oil' was expressly interpreted in earlier patents, including one to Cattermole referred to at some length in 835120, and as there is evidence that it thus was understood by men skilled in the art. It is disclosed that it was well known there were other substances besides oil that had the preferential affinity and that could be used. The nature of the affinity is not specified and it cannot be confined to the kind of action shown by oil. It is neither said nor implied that the added element must be insoluble

or that it must coat the metal, although it is assumed in accordance with the prevailing theory that the metal will be coated when the oil mentioned in the claims is used. All that is required is that in some effective way the other substance should pick the metal out. It is said that oil does it by coating the metal particles and that of course a substance in solution could not do that. There is no 'of course' as to what nature can do, except as proved by observation and experiment. A substance in solution can combine chemically with another and become a solid. Whether a given thing will unite mechanically or whether by its presence it will promote an activity in which it does not share, is to be found out by trial not by reasoning, and the petitioner agrees that in this case we do not know. It is a matter of reasoning rather than of observation that the oil coats the mineral particles. The experts differ whether the same thing does not take place when a soluble substance is used. But we agree with the defendant's argument that no one concerned in this business would care a straw as to the intimate nature of the action if it produced the result, and that No. 835120 was not describing the work of insolubles alone. It was not attempting to anticipate a theory of the invisible, but to tell how the practical end could be achieved with any of the different things named.

The discovery was that a very minute portion of the oil worked in an unexpectedly different way from that familiar with larger quantities—not in the matter of coating the particles, but in helping to produce a froth that floated instead of granules that sank, and thus in preserving the slime made by the smaller particles with the water, and so saving a large proportion of metal that otherwise would have been lost. The fact was a general one. No particular oil was mentioned and the fact was not confined to oils. The public was directed to make a 'simple preliminary test to determine which oily substance yields the proportion of froth or scum desired'. The patent having been held good as to the oils although experiment was necessary to find out what oil would work best with a given ore the disclosure was an anticipation although experiment might be necessary to chose among the substances having the required affinity the one that would produce the best result.

The petitioner adverts to the success that has attended the later patent and to the fact that the world waited until it appeared. But interlopers naturally would be slow to venture into the field occupied by a powerful company armed with patent No. 835120 and supported by a subtle ingenuity that we cannot doubt would have been exercised with even more effect to show that a process like that in No. 962678 was an infringement than it now is to prove that the later patent was a revelation that transformed the art.

Decree affirmed.

A true copy.

Test:

Clerk, Supreme Court, U. S.